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Red = changes to existing text, as contained in 09-08-09 draft

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CHAPTER 1066 Private Sewage Disposal Systems

EDITOR'S NOTE: This chapter was re-enacted in its entirety by Ordinance 94-05, passed February 16, 1994.

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CROSS REFERENCES

Approval of sewerage systems by counties - see Code of Va. §§15.2-2126 et seq.

Construction of sewers generally - see S.U. & P.S. Ch. 1060

Use of sewers; building sewers and connections - see S.U. & P.S. Ch. 1064

Pretreatment of wastewater - see S.U. & P.S. Ch. 1068

Sewerage facilities in subdivisions - see P. & Z. 1245.08

1066.01 DEFINITIONS.

As used in this chapter:

- (a) "Approving authority" means the County Health Director or his or her duly authorized agent.
- (b) "Approved method of the disposal of sewage" means water carriage disposal of sewage to an approved public or private sewage treatment system; water carriage disposal of sewage to an approved septic tank system or other approved individual disposal system; or non-water carriage disposal of human excrement only to an approved pit privy or other approved privy facility.
- (c) "CR horizon" means the mineral horizons or layers of weathered bedrock and saprolite, such as granite or partly consolidated soft bedrock, such as sandstone, siltstone or shale, with bulk density or consolidation such that roots cannot enter. The material can be dug with difficulty with a spade, and chunks of gravel size will disperse more or less completely in overnight slaking with water or sodium hexametaphosphate solution. The horizon layer is equivalent to the material underlying the paralithic contact of soil taxonomy.
- (d) "Drainageway" means the concave portion of the landscape in which surface water or rain water runoff gathers intermittently to flow to a lower elevation.
- (e) "Flood plain" means the land bordering a stream, built-up to unconsolidated sediments from overflow of the stream and subject to inundation when the stream is at flood stage.
- (f) "Health Department" means the same as the approving authority.
- (g) "Health Director" means the same as the approving authority.
- (h) "Impervious strata" means soil or soil materials with an estimated or measured percolation rate in excess of 120 minutes per inch, including lithic rock, paralithic rock and CR horizons.
- (i) "Individual sewage disposal system" means a complete system for the collection, treatment and/or disposal of sewage.
- (j) "Inspection" means surveillance procedures as used by the Health Department to determine compliance with the provisions of this chapter.
- (k) "Limestone outcrop belt" means those areas underlaid by carbonate bedrock, including, but not limited to, Triassic-Jurassic Leesburg limestone conglomerate and Cambrian limestones and dolomites, and which have landscapes with carbonate bedrock outcrops, sinks, sinkholes and solution channels in bedrock, and which often exhibit aspects of Karst or Karren topography.

(l) "Limestone Overlay District" means those areas of the County, as shown on the

County's Zoning Map, which are subject to the Limestone Overlay Zoning District, as set forth in the Loudoun County Revised 1993 Zoning Ordinance, as amended from time to time.

- (m) "Lithic rock" means partially weathered rock material which cannot be bored using a standard, hand-operated three and one-quarter inch barrel auger and sixteen-inch cross handle.
- (n) "Marshes and swamps" means periodically wet or continually flooded areas with the land surface not deeply submerged.
- (o) "Microtopography" means small-scale, local differences in topography, including mounds, swales or pits, that are only a few feet in diameter and with elevation differences of up to six feet.
- (p) "Paralithic rock" means weathered rock material which may be found above lithic rock and below the natural soil (surface and subsoil) and which conforms to the U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS) definition of "CR horizon," excluding the slaking requirements.
- (q) "Percolation test" means a standardized water test used to determine the rate of water absorption by soil.
- (r) "Sanitary pit privy" means a pit and/or chamber for receiving non-water carriage of human waste, over which is placed a privy house with seats.
- (s) "Seasonal water table" means an observed water table and/or that portion of the soil profile where a color change has occurred as a result of saturated soil conditions. Typical colors are gray, black or less than Chroma 2 on the Munsell Soil Color Chart.
- (t) "Septic tank" means a settling tank in which part of the heavy solids are settled and the organic solids decompose by anaerobic bacterial action.
- (u) "Sewage" means human excrement and the liquid wastes derived from dwellings, business establishments, institutions and other structures or places used for human habitation, employment or congregation, exclusive of those wastes derived from industrial processes.
- (v) "Sewage treatment system" means a complete system for the collection of sewage and the process of biological and/or chemical reduction of the waste with a subsequent discharge into a receiving stream.
- (w) "Slope" means the incline surface of a hill, mountain, etc., or any part of the surface of the earth. "Slope" also means the angle at which such surfaces deviate from the horizontal, commonly expressed in percent.
- (x) "Soil analysis" means a systematic approach to evaluation of soil conditions by a qualified professional soils technician.
- (y) "Subsurface disposal field (drainfield)" means the process of sewage disposal in which the effluent from a septic tank is applied to the land by distribution beneath the ground surface.
- (z) "Temporary privy" means a portable privy with a vault used for the collection and storage of human excrement for a specified period of time.
(Ord. 94-05. Passed 2-16-94.)

1066.02 APPROVED METHOD OF SEWAGE DISPOSAL REQUIRED.

- (a) No person shall use or occupy, or rent or lease for use or occupancy, any house, trailer, mobile home, whether self-propelled or not, warehouse, public or private

building or other structure or gathering place in which there is human habitation, employment or congregation, until such house, trailer, mobile home, warehouse, public or private building or other structure or gathering place is supplied with an adequate, approved method for the disposal of sewage as provided for in this chapter.

(b) Following the effective date of this chapter, no person shall construct a new dwelling unit unless and until it can be furnished with minimum sanitary facilities to include a toilet, hand lavatory, tub and/or shower and kitchen sink, inasmuch as these minimum facilities are necessary to good sanitation. All such fixtures shall be supplied with hot and cold running water, with the exception of the flush toilet. In new units intended for purposes other than use as dwelling units where tubs and/or showers are not necessary for sanitation, minimum facilities shall consist of at least a toilet and hand lavatory with hot and cold running water. (Ord. 94-05. Passed 2-16-94.)

1066.03 PERMIT REQUIRED FOR INDIVIDUAL SYSTEMS.

(a) General. No person shall install, construct, alter, repair or extend, or allow to be installed, constructed, altered, repaired or extended, any individual sewage disposal and/or treatment system in the County without first applying for and obtaining a valid permit therefor in the name of a specific person for a specific location. Permits for installation, construction, alteration, repair or extension of sewage disposal systems shall be issued by the Health Department. In addition, no person shall change, renovate, alter or remodel any structure served by an individual sewerage system unless and until such is done in accordance with a valid health permit or under written approval of the Health Department stating such will not cause an increased loading on the sewerage system.

(b) Application for Permit. Application shall be made on forms furnished by the Health Department and shall contain a clear description of the location and dimensions of the land or lot on which the sewage disposal system is to be installed, altered or repaired. Transfer of property may include transfer of the permits provided that all conditions of the permit remain in effect and provided that any change in the proposal requires the written approval of the Health Department. The Health Director shall require such tests, plans and/or specifications as the Health Director deems necessary to determine the adequacy and desirability of the proposed system, and such information shall be made a part of the permit records.

(c) Approval or Denial of Permit. When the Health Director is satisfied that a proposed system is adequate for the conditions under which a system is to be installed and used, a written permit to proceed with construction shall be issued. Otherwise, a permit shall be denied in writing stating the specific reason for denial.

(d) Voidance of Permits. Material changes in site conditions upon which a permit to install a sewage disposal and/or treatment system was based shall automatically void the permit. No person shall proceed with construction until such time as further written approval has been obtained from the Health Department, in accordance with this chapter. Notwithstanding any other provision of this chapter, permits shall be automatically cancelled should the Health Director later determine that a potential health hazard would be created by continuing installation.

(e) Building Permit. No person shall be entitled to obtain a building permit in the County until such time as he has obtained a valid sewage disposal permit from the Health Department where such a permit is required to provide for adequate sewage disposal. (Ord. 94-05. Passed 2-16-94.)

1066.04 LICENSE AND BOND REQUIREMENTS.

(a) Installation License. No person shall install, repair or contract to install or repair individual sewage disposal and/or treatment systems or parts thereof without first obtaining an installation license therefor from the Health Department. Such license requirement shall not apply to an individual person who installs not more than three such systems on his own property within one year or twelve consecutive months.

The installation license is to be issued by the Health Department upon written application, payment of a license fee and presentation of satisfactory evidence that the applicant has a working knowledge of the installation of sewage disposal and/or treatment systems as well as the provisions of this chapter, as shall be determined by the passage of a standard written examination administered by the Health Department, provided that bonding requirements as set forth in subsection (d) hereof have been met.

The aforesaid requirement of a written examination shall not apply to those persons who installed three systems approved by the Health Department within six months prior to the adoption of this chapter or to those persons who installed five systems approved by the Health Department within twelve months prior to the adoption of this chapter, provided that such persons comply with all other requirements of this chapter, provided, further, that such persons attend a special course in instruction as to the provisions of this chapter conducted by the Health Department, and provided, further, that such persons obtain their license within six months following the effective date of this chapter.

(b) Septic Tank Cleaner's License. No person shall engage in the business of cleaning septic tanks, settling tanks and/or vaults designed to hold or retain solids and/or liquids in conjunction with any sewage disposal system, by whatever name called, without first obtaining a septic tank cleaner's license from the Health Department.

The septic tank cleaner's license shall be issued by the Health Department upon written application and payment of a license fee, provided that the applicant gives evidence that he can comply with the following requirements.

(1) Equipment requirements.

- A. The tank into which sewage is pumped or delivered and carried is to be fully watertight.
- B. All inlets and outlets to such tanks shall be fully enclosed and provided with watertight valves.
- C. Suction and discharge hoses shall be watertight and provision shall be made for carrying such hoses in a manner that will prevent any spillage or leakage.
- D. All exposed surfaces shall be painted and maintained in a clean and sanitary condition by frequent washings.
- E. The name and address of the person owning or operating such equipment shall be painted on the vehicle in letters at least four inches high so as to be visible from either side of the vehicle.

- F. A copy of the septic tank cleaner's license shall be carried in the glove compartment of each vehicle operated.
- (2) Disposal sites. (EDITOR'S NOTE: Paragraph (b)(2) was repealed by Ordinance 94-05, passed February 16, 1994.)

(c) License to Conduct Percolation Tests. No person shall conduct a percolation test for purposes of this chapter without first obtaining a percolation test license from the Health Department. Such license shall be issued upon written application and payment of a license fee, provided that the applicant has a satisfactory knowledge of percolation testing procedures, as shall be determined by the passage of a standard written examination to be administered by the Health Department.

(d) Bonding. All persons required to have a license under this chapter shall furnish bond payable to the County in the amount specified in Appendix I following this chapter for specific licenses, with surety approved by the Treasurer of the County and conditioned to indemnify and save harmless the County, as well as any other person, from all expenses and damages that may be caused by any neglect, omission or defective or inadequate work done by such licensee, his agent, employee or representative. Where such work is deemed defective or inadequate by the Health Department and is not corrected within ten days of written notice to do so, the Health Department may declare the bond forfeited and shall use the proceeds therefrom to correct such work and, in addition, to pay all damages which may have been occasioned to any person by reason of such neglect, omission or defective or inadequate work. Such bond shall be deposited with the County Treasurer and shall be in force for a period of not less than the period of the license.

(e) Revocation of Licenses. Any person having a license required by this chapter who is convicted of a violation of any of the provisions of this chapter or who fails to correct a violation of any of the provisions of this chapter, upon written notice to do so, shall, in addition to forfeiture of bond, be subject to a suspension or loss of his license and/or a refusal to renew his license by the Health Department.

(f) Renewal of Licenses. All licenses are annual and shall be renewed between January 1 and January 15 of each year and are not proratable. A request for renewal is to be submitted to the Health Department in writing and is the responsibility of the license holder. Examination shall not be necessary for renewal.
(Ord. 94-05. Passed 2-16-94.)

1066.05 INSPECTIONS.

The County Health Director may inspect the entire system of sewage disposal and/or treatment maintained at all premises in the County for the purpose of determining if such is being operated and maintained in a sanitary manner. Such inspection shall be done at reasonable times and, whenever practical, in the company of the owner or occupant of the premises.

In addition, the Health Director or his authorized agent shall make such inspections as may be deemed necessary during the construction of any sewage disposal and/or treatment system installed in the County to determine compliance with the requirements of this chapter. No person shall use, allow to be used or cause to be used, any system until after the Health Department has inspected and approved the same in writing. No part of any system shall be covered until it is inspected and approved by the Health Department,

and any such part which has been covered prior to inspection shall be uncovered for inspection upon order of the Health Director. In extraordinary circumstances, the Health Director or his authorized agent may give final approval of any system, although incomplete, when reasonable professional judgment indicates a revisit is not practical or feasible. The inspection form shall indicate such waiver.
(Ord. 94-05. Passed 2-16-94.)

1066.06 NEGLECT OR MISUSE OF SYSTEMS.

No owner, tenant or lessee of any premises properly supplied with an approved method of disposal of sewage shall misuse or neglect such a system or any part thereof so as to cause it to cease to be sanitary.

1066.07 RESPONSIBILITY OF OWNER OF SYSTEM.

The issuance of a permit, subsequent installation and acceptance of the individual sewage disposal system upon inspection by the Health Department does not denote or imply any guarantee of such system, and it shall be the responsibility of the owner, or any subsequent owner of the system, to maintain, repair or replace any system which has ceased to function in a sanitary manner. (Ord. 94-05. Passed 2-16-94.)

1066.08 FEES.

The County shall establish, set and charge such fees as it deems necessary and reasonable to defray the cost of permits and/or licenses as are required to be issued under this chapter. (Ord. 94-05. Passed 2-16-94.)

1066.09 INSTALLATION, REPLACEMENT OR REPAIR OF INDIVIDUAL SYSTEMS WITHIN 300 FEET OF A SANITARY SEWER.

If an approved public or private sewer is within 300 feet of any new building or structure for which sewage disposal is required, the property owner shall connect to the sewer, provided that the owner of the sewer permits such a connection.

Should an existing individual sewerage system cease to operate in a sanitary manner or should alterations be required to provide safe and adequate treatment, and the building or structure to be served is within 300 feet of an approved public or private sewer, the property owner shall connect to the sewer, provided that the owner of the sewer allows such a connection. (Ord. 94-05. Passed 2-16-94.)

1066.10 EFFLUENT PUMP SYSTEMS.

The use of sewage ejectors, lift stations or pumps on raw sewage lines to septic tanks are prohibited. This shall not apply to effluent from the septic tank which may be collected in a separate tank and pumped to the subsurface disposal field distribution box, provided a check valve and flow velocity reducing device are used prior to entering the distribution box. For lifts in excess of fifteen feet, the applicant may be required to submit plans and a manufacturer's guarantee of performance. All such installations shall provide for the ability to fill the subsurface disposal field tile to six-tenths capacity and shall be installed according to manufacturer's specifications.
(Ord. 94-05. Passed 2-16-94.)

1066.11 DETERMINING SUITABILITY OF SUBSURFACE DISPOSAL SYSTEMS.

(a) Subdivisions. The owner shall submit plans and specifications of the sewage

disposal and/or treatment system where such is required, together with the plans and specifications of the proposed water supply system, to the Health Department for approval, and such plans and specifications shall be approved prior to the start of any construction or building.

The Director of Health shall develop procedures to evaluate subdivisions served by on-site sewage disposal systems, consistent with the LSDO and Standard Regulations.

Approval of a lot by the Health Department does not denote, nor is it intended to imply, final approval; it merely represents initial findings in accordance with the criteria at such time. Prior to construction on any lot, it shall be necessary to apply for and obtain a permit from the Health Department, and such permit shall be issued in accordance with the standards at the time the application is made. The Health Department shall take into consideration the specific proposal and the previous findings, but shall not be obligated by those findings should it later be determined that a health hazard would result by allowing installation of a subsurface disposal field.

(b) Individual Lots. A permit for construction of a subsurface disposal field on an individual lot or property shall be issued after completion of a satisfactory investigation which indicates that such a system can be installed and is expected to perform in a sanitary manner so as not to create a health hazard. The following information may be used in determining suitability:

- (1) The experience of the Health Department as supported by field investigation and soil evaluations;
- (2) Information submitted on behalf of an applicant by a qualified professional consultant in the field of waste disposal and/or treatment of domestic waste or related subjects, which information shall be evaluated by the Health Department, as submitted, prior to approval;
- (3) Results of actual percolation tests conducted on the property in the area of the proposed subsurface disposal field, which tests are to be conducted by the Health Department or by a qualified field representative licensed to conduct such tests in the County; and
- (4) Information on file with the Health Department as to previous evaluation and/or tests on the property.

(c) Evaluation; Conflicts. Soil evaluations for a subsurface absorption system shall follow a systematic approach. Reports submitted for subsurface absorption systems shall be detailed soil/site investigations, as described in subsection (h) hereof. Evaluations shall indicate whether or not the soils meet the criteria specified herein for the installation of the type of on-site sewage disposal system proposed. In addition to information gathered during the soils and geotechnical investigation, the topography, available area, proximity to ground and drinking water supplies, proximity to bodies of water, rates of water absorption by the soil horizon proposed for use, or a combination of any of the above, shall also be considered in such evaluation. If absorption rate problems are suspected and there is no indication of a water table, percolation tests may be required, but their results shall not be presumptive, prima-facie or conclusive evidence as to the suitability for effluent absorption.

When discrepancies exist between these and other State or local agency codes or regulations, the more restrictive will apply.

(d) Site and Structure Identification. A site sketch, prepared by the applicant, is to accompany all applications for permits to construct on-site sewage disposal systems and must show accurately:

- (1) The dimensions of the property.
- (2) Proposed and/or existing structures and driveways.
- (3) Underground utilities.
- (4) Adjacent soil absorption sewage disposal systems.
- (5) Bodies of water.
- (6) Drainageways.
- (7) Wells and springs within a 200-foot radius of the center of the proposed drainfield.

A photogrammetric map of the site to be evaluated, approved or denied by the Health Department shall be provided by the applicant. This map must meet the criteria described in subsection (h) hereof.

(e) Physical Features.

- (1) Subsurface absorption systems shall not be placed on slopes greater than twenty-five percent.
- (2) Unfavorable microtopography may preclude the use of certain sites which have otherwise favorable soil characteristics.
- (3) Placement of subsurface soil absorption systems in fill material is prohibited.
- (4) ~~No drainfield~~ Outside of the Limestone Overlay District no individual sewage disposal system shall be placed closer than 100 feet from the low point of a sinkhole nor closer than fifty feet from the outer edge of a sinkhole. Sinkholes will be considered to exist with or without knowledge of the size, orientation or presence of subterranean voids, since the surface collapse evidences subsidence into such voids. Distances from rock outcrops may be ~~increased~~ imposed and additional geologic information required in accordance with a geotechnical report, as described in Section ~~6.300–6.150~~ of the Loudoun County Facilities Standards Manual, where limestone or other environmentally critical rock formations are encountered.
- (5) Within the Limestone Overlay District no individual sewage disposal system shall be placed closer than 100 feet from the rim of a sinkhole/swallet/closed depression, from a cave opening, or from a Perennial Sinking Stream provided, however, that such setback may be reduced by up to fifty percent if a geophysical study, conducted in accord with Section 6.151 of the Facilities Standards Manual, concludes that the risks of collapse and groundwater contamination are non-existent or insignificant for the proposed location and use, except that no reduction shall be allowed for any Perennial Sinking Stream, nor for any Sinkhole, Swallet, Closed Depression or Cave Opening that receives an intermittent or Perennial Sinking Stream. However, for a lot of record existing on [action date] an individual sewage disposal system for a principal residential structure may be permitted within the setback if it is constructed in compliance with all recommendations of the Geophysical Study and

such individual sewage disposal system is sited on the lot so as to be located as far from the rim of the sinkhole/swallet/closed depression, cave opening, or Perennial Sinking Stream as is feasible. No such individual sewage disposal system shall be allowed if the geophysical study shows subsidence or groundwater contamination poses a serious risk to public health or safety or to the safety of residents or users of the residential structure unless the design of the individual sewage disposal system is certified, both structurally and geotechnically, by a professional engineer.

- (6) Within the Limestone Overlay District no individual sewage disposal system shall be placed closer than fifty feet from a rock outcrop, underground solution channel within 45 feet of the surface, *or other Karst/Sensitive Environmental features, (except Springs* or features identified in 1066.11(e)(5)). Distances from such features may be reduced by up to fifty percent if a geophysical study, conducted in accord with Section 6.151 of the Facilities Standards Manual, concludes that the risks of collapse and groundwater contamination are not a concern for the proposed location and use. However, for a lot of record existing on [action date] an individual sewage disposal system for a principal residential structure may be permitted within the setback if it is constructed in compliance with all recommendations of the geophysical study and such individual sewage disposal system is sited on the lot so as to be located as far from the rock outcrop, underground solution channel within 45 feet of the surface, or other Karst/Sensitive Environmental feature, (except Springs or features identified in 1066.11(e)(5)), as is feasible. No such individual sewage disposal system shall be allowed if the Geophysical Study shows subsidence or groundwater contamination poses a serious risk to public health or safety or to the safety of residents or users of the residential structure unless the design of the drainfield is certified, both structurally and geotechnically, by a professional engineer.

- (7) *Within the Limestone Overlay District no individual sewage disposal system shall be placed closer than: (1) one hundred (100) feet from a spring, measured from the first emergence of the spring or (2) two hundred (200) feet from a spring when the first emergence of the spring is on a slope greater than 15% and is downslope from the proposed sewage disposal system.* However, for a lot of record existing on [action date] an individual sewage disposal system for a principal residential structure may be permitted within the setback if it is constructed in compliance with all recommendations of a geophysical study conducted for such site, and such drainfield is sited on the lot so as to be located as far from the Spring, as is feasible. No such individual sewage disposal system shall be allowed if the geophysical study shows subsidence or groundwater contamination poses a serious risk to public health or safety or to the safety of residents or users of the residential structure unless the design of the individual sewage disposal system is certified, both structurally and geotechnically, by a professional engineer.

- (f) Soil Profiles and Patterns.

- (1) Depth of profile hole. The minimum depth of the profile hole shall be six feet, unless prevented or made unnecessary by some physical feature of the soil, such as gray coloration, rock or when a potential horizon is found at a lesser depth. When a potential soil horizon is considered for use, the soil evaluation shall be extended below the soil horizon, with potential for use to insure that there is no interference with seasonal water tables, lithic rock, paralithic rock or other impervious strata.
 - (2) Number and location of profile holes. A minimum of five holes is necessary to determine the design requirements of an area for the placement of any absorption trenches. The size of the area investigated shall be based on the soil class encountered. Holes shall be evenly placed to bound the area under consideration with one hole installed in the center. If more than one area is required in which to install the absorption trenches, each area shall be evaluated with at least three soil borings. The actual area and number of borings necessary shall be determined on a case-by-case basis.
- (g) Characteristics of Soils That Determine Suitability.
- (1) Estimation of soil texture. The soil texture shall be estimated by field testing. The field test that shall be applied is contained in Appendix F of the Sewage Handling Regulations and is entitled "Field Guide to Soil Texture Classes." Laboratory estimation of texture by sieve and sedimentation and analysis may be substituted for the field test at the owner's request and expense. Samples shall be collected by the laboratory under supervision of the local Health Department or the Department of Environmental Resources.
 - (2) CR horizons. See the definition in Section 1066.01(c).
 - (3) Class IV soils. The use of soils exhibiting characteristics of Class IV soils, as described in the Interpretive Guide to the Use of Soils Maps, Loudoun County, Virginia, for on-site sewage disposal systems, is prohibited.

(h) Requirements for a Detailed Soil Site Investigation. Detailed soil-site investigation reports generated for any proposed on-site sewage disposal facility are required by and are to be submitted to the Loudoun County Health Department. A detailed soil-site investigation report is required for any land development sewage effluent proposals and may be required by the Health Department for any other on-site sewage disposal facility which is not exclusively regulated by the State. Technical standards for such investigations are contained in this chapter and current State regulations on this subject. This investigation shall be submitted to the Health Department for review and recommendation in accordance with Section 8.110.D.2 of Chapter 8 of the Loudoun County Facilities Standards Manual. A detailed investigation may also be required by the Director for specialized land use applications such as solid waste operations, composting facilities or other similar uses.

The detailed soil-site investigation report should include the following, where appropriate, unless determined by the Director, at the request of the developer, to be inapplicable based upon sound engineering principals:

- (1) Results of field investigation.
 - A. A map, drawn to 1:2,400 scale (1 inch = 200 feet) and larger, as requested on a sheet twenty-four inches by thirty-six inches. Where small tracts are involved, an eight by eleven-inch sheet may be

acceptable, provided it complies with all other requirements set forth herein.

- B. Existing water supplies within 200 feet of the property and sewage disposal systems on the property.
- C. The location of all borings and backhoe pits. Test holes/pits are to be numbered and located dimensionally, including surface elevations.
- D. The location of all numbered proposed on-site sewage disposal systems, if applicable. All subsurface soil absorption systems must be shown in contour and delineated by five borings or pits. In addition, site locations within the Limestone Overlay District and those underlaid by limestone/limestone conglomerate, shall be examined in cross section to a depth of 45 feet minimum, using technology such as electrical resistivity, to determine the presence of karst features. Karst features, such as voids and solution channels, may be grounds for denial of the site.
- E. The following items as they relate to the proposal, if required:
 - 1 The landscape type and position, the slope and the surface drainage.
 - 2 The soil morphology, including the texture, color, structure, consistency, depth, lithologic discontinuities, boundaries, etc.
 - 3 The permeability, internal drainage and perched water tables.
 - 4 The parent material and associated problems.
 - 5 Restrictive layers.
- F. The soil evaluation form.

(2) Recommendation and conclusions.

- A. The following items shall be included in the report when drainfields are proposed:
 - 6 Recommendations for use as on-site sewage disposal sites, including depth of installation, type of system, relative suitability and modifications.
 - 7 Recommendations and conclusions for repairing malfunctioning on-site sewage disposal systems or designing modified on-site sewage disposal systems.
 - 8 Where on-site sewage disposal is proposed, potential impacts on ground and surface water, loading rates and vegetative cover.
- B. The following shall be included in the report where applicable to other proposed uses:
 - 9 Recommendations for vegetative stabilization (lime, fertilization/seeding types and rates, stockpiling topsoil).
 - 10 Conclusions on soil mineralogy.
 - 11 Recommendations on the suitability of the site for land application of Class A sewage sludge. (See Article 7 of the Virginia Sewerage Regulations and Chapter 1090 of these Codified Ordinances.)
 - 12 Conclusions on soil chemistry.
 - 13 Recommendations regarding the suitability of the site for spray irrigation.

- 14 Recommendations for additional tests for geotechnical study.
- (3) Appendix A: field logs. Soil profile descriptions taken from soil boring/backhoe pits should include:
- A. The boring/pit number.
 - B. The depth, thickness and description of each horizon, including paralithic and lithic contacts encountered.
 - C. Locations of all samples taken and analyses to be conducted on each sample.
 - D. The depth to perched water and/or the ground water table if observed (or if indicated by soil color patterns).
 - E. The name of the person responsible for the description and sampling.
- (4) Appendix B: field testing. If field tests, such as percolation test or permeability tests, have been conducted, the results should be included.
- A. Percolation tests.
 - B. Permeability tests, including a description of the profile.
 - C. Piezometer observations, including readings, depth, date of readings, rainfall data and soil profile (if available for the site).
- (5) Appendix C: laboratory data. Laboratory data produced to support the report shall be included.
(Ord. 94-05. Passed 2-16-94.)

1066.12 DESIGN AND LOCATION REQUIREMENTS FOR SUBSURFACE DISPOSAL FIELDS.

(a) Design.

- (1) Distance to rock. The minimum acceptable separation distance, both vertical and horizontal, from the absorption trench bottom and sidewalls to lithic rock, rock outcroppings, CR horizons and pans, is one foot. However, within the Limestone Overlay District and in the limestone outcrop belt, horizontal and vertical separation between lithic rock and trench bottoms and sidewalls is four feet (see Table 4.4 of the Virginia Sewage Handling and Disposal Regulations, "Minimum Separation Distances").
- (2) Depth to seasonal water table. As used herein, "seasonal water table" means that portion of the soil profile where a color change has occurred in the soil as a result of saturated soil conditions or where soil concretions have formed. Typical colors are gray mottlings, solid gray or black. The depth in the soil at which these conditions first occur is termed the "seasonal water table." The minimum separation distance from the absorption trench bottom to the seasonal water table is two feet.
- (3) Blasting. The use of any explosive materials within 100 feet of the soil disposal system or within fifty feet of any remaining portion of the sewage conveyance, treatment or dosing system is specifically prohibited. Lithic rock encountered during installation will necessitate a redesign of the system permitted and will be handled on a case-by-case basis.
- (4) Size. The size of the subsurface disposal field shall be based on the square footage of the trench bottoms and shall consist of a minimum of 600 square feet (300 linear feet on a twenty-four inch trench) of subsurface disposal trench bottom.

(b) Location. The location and installation of the sewage disposal system and each part thereof shall be such that, with reasonable maintenance, the system will function in a sanitary manner and will not create a nuisance or endanger the safety of any domestic water supply. In determining a suitable location for the system, consideration shall be given to the size and shape of the lot, the slope of the natural and finished grade, the depth of the ground water table, the proximity to existing or future water supplies, the possible expansion of the system, and, within the Limestone Overlay District, the results of geophysical and geotechnical studies required by the Revised 1993 Zoning Ordinance, as amended. Minimum location requirements, as set forth in Appendix II, following this chapter, shall be met.

Where a sewage disposal system is located by easement off the lot of the structure it serves, the Health Director or his or her designee shall establish special design and performance standards, procedures and forms necessary to ensure identification, protection and maintenance of the sewage disposal system to be located on that easement.

The subsurface disposal field shall be located on the lot, tract or parcel of land which it serves. However, subsurface disposal fields on off-site easements may be permitted in the following situations:

- (1) A permit was issued for the sewage disposal system prior to January 17, 1989.
- (2) The sewage disposal system is proposed to replace a failing sewage disposal system.
- (3) The lot was shown to be served by the off-site easement on a preliminary plan of subdivision approved prior to January 17, 1989.
- (4) The lot was shown on a preliminary plan of subdivision or plan of family subdivision accepted for review by the Department of Planning, Zoning and Community Development prior to January 17, 1989.
- (5) The sewage disposal system is proposed to serve an existing lot of record as of January 17, 1989, for which no approved on-site disposal system can be found.
- (6) Sewage disposal systems shall be situated on permanent, dedicated open space, but only where specifically permitted by the Subdivision Regulations and the Zoning Code of the County.
- (7) Multiple existing structures on any parcel currently served by on-site sewage disposal systems may use easements for sewage disposal systems if a division of that parcel cannot be reasonably accomplished without the use of easements.
- (8) For lots in the A-3 or A-10 Zoning District on which an approved sewage disposal site exists, an off-site easement on an adjacent lot located along the common property boundary line may be approved if, in the determination of the Planning Commission, use of such easement will better meet the intent of the Subdivision Regulations through the creation of more orderly lot configurations, better dwelling locations, better buffering between lots or improved road configuration or access.

(c) Reserve Absorption Area Sites. Sufficient suitable soils shall be available on each lot, or available to each lot by easement or other device approved by the Director, to allow repair and/or extension of the on-site sewage disposal system for a period of time equal to:

- (1) The reasonably anticipated life expectancy of the structure (interpreted as 100 percent repair area); or
- (2) In an area designated by an adopted area plan for future central sewer service by the Loudoun County Sanitation Authority or an incorporated town, the planned availability date of that sewer service or fifty percent of the originally required soil area, whichever is greater.

Soil disposal systems are considered, for purposes of this section, to have a life expectancy of thirty years. Lots proposed for approval in these areas shall contain sewer utility easements designed to facilitate future sewer line construction and installation. Evidence of consultation regarding design with the Loudoun County Sanitation Authority or sewage treatment plant operator is required prior to Health Department approval.

(d) Site Preparation and Alteration.

- (1) Removal of vegetation. Vegetation, such as maples, willows and other plant species with extremely hydrophilic (water loving) root systems, shall be moved at least ten feet from the actual absorption areas. All trees should be removed from the absorption area. The local agent of the Virginia Department of Forestry will arbitrate any dispute as to the hydrophilic nature of any tree or shrub.
- (2) Field marking of pretreatment and distribution systems. The preferred method of permanent marking of pretreatment and distribution components is with a ferrous metal pipe sleeve within a corrugated PVC drain pipe to permit electromagnetic location by metal detector.
- (3) Drainage. No person shall divert water from his or her property onto that of another person, other than into natural drainageways, unless site grading plans, as described in Chapter 5.000 of the Loudoun County Facilities Standards Manual, are prepared and approved by the Directors of the Departments of Health and Building and Development.
- (4) Grass swale. A shallow, man-made drainageway designed to divert and channel surface water run-off, especially sheet flow, covered with permanent vegetation, such as sod or grass, shall be prepared, where necessary. Cross-sectional dimensions are normally six feet wide by one foot deep.
- (5) Placement of utilities.
 - A. Subsurface soil absorption systems shall not be placed in an underground utility easement. No buried utility services, water lines, electrical lines, gas lines, etc., shall traverse the subsurface soil absorption system area, nor shall the buried service be closer than ten feet to the system.
 - B. The placement of subsurface soil absorption systems under overhead utility lines is prohibited where heavy equipment must traverse the system in order to service and maintain the utility line. (Ord. 94-05. Passed 2-16-94.)

1066.13 PERMIT REQUIRED FOR PIT PRIVIES.

No person shall erect, install or allow to be erected or installed a pit privy without first obtaining a permit therefore from the Health Department in accordance with the following provisions.

- (a) Private Individual Residences; Business Establishments. Subsequent to the effective date of this chapter, no person shall construct pit privy facilities for sanitary waste disposal in an individual residence or business establishment,

inasmuch as a complete plumbing system with appropriate fixtures is necessary to good sanitation, and it shall not be satisfactory to the intent of this chapter to construct a dwelling or other structure which should have plumbing and household waste fixtures, in total or in part, present or future, which cannot and will not be able to provide for such wastes. This section shall not apply to the repair of or replacement of existing privies, nor shall it apply to the construction of new facilities where such construction is a temporary method of waste disposal not to exceed six months, in conjunction with a construction site or like use. All privies shall be constructed or repaired in accordance with plans and specifications as provided by the Health Department and are to be inspected and approved by the Health Department prior to use.

- (b) Temporary Pit Privy Use. In lieu of a permanent type of structure and for the purpose of disposal of human excrement for temporary use, the following type of holding privy may be used for a specified period of time at a specific location as prescribed by the Health Officer.

- (1) Building; vents and door. A building may be used which may be on skids for movability, so constructed as to be flytight and rodentproof, with vents near the ceiling covered with sixteen mesh copper wire screen, or equivalent, and with a self-closing, flytight door.
- (2) Seat box, hole and vent. The seat and seat box shall be so constructed as to be easily cleanable and to cover completely a corrosion-resistant, waterproof, metal or other approved material tank of sufficient capacity. The tank shall have all opening directly under the seat hole. Where necessary, an approved sleeve shall be provided between the seat and the tank. The tank shall be vented through or near the roof with a sixteen mesh screen covering.
- (3) Maintenance. The tank shall be cleaned out at least once weekly or more often as necessary to prevent the contents from filling the tank above two-thirds of its capacity. Cleaning of the tank shall be done by a licensed contractor with approved equipment as required in Section 1066.04(b). Chemicals approved by the Health Department shall be added as often as necessary to liquefy wastes and prevent objectionable odors. Daily washing of the toilet seat and the inside of the building shall be required. Toilet tissue shall be provided at all times. The privy shall be maintained in such a way that it will not endanger the public health or create a nuisance. (Ord. 94-05. Passed 2-16-94.)

1066.14 CONSTRUCTION OF OTHER INDIVIDUAL SYSTEMS.

Plans for any sewage disposal and/or sewage treatment system not specifically covered by this chapter shall be submitted in triplicate to the County Health Department for approval. Such systems shall be permitted only when the manner of disposal and/or treatment is satisfactory to the Health Department and, in the case of discharges, is satisfactory to the Health Department and the State Water Control Board, so as not to create a health hazard and/or undue stream quality degradation, provided that such systems can be demonstrated to provide adequate and safe sewage disposal and/or treatment.

(Ord. 94-05. Passed 2-16-94.)

1066.15 NOTICE TO CORRECT.

If the Health Officer finds a violation of any of the provisions of this chapter or a

violation of any of the provisions of a permit and/or license as issued under this chapter, he shall direct the owner or person to whom the permit and/or license was issued, by written notice, to make the necessary corrections within such reasonable period as specified therein. No person shall fail to comply with such notice within such period. (Ord. 94-05. Passed 2-16-94.)

1066.16 EQUITABLE REMEDIES.

In addition to the penalty provided in Section 1066.99, the Health Director may initiate injunction, mandamus, abatement or any other appropriate action to prevent, enjoin, abate or remove a violation of any of the provisions of this chapter. (Ord. 94-05. Passed 2-16-94.)

**1066.17 INDIVIDUAL SEWAGE DISPOSAL SYSTEMS WITHIN THE LIMESTONE
OVERLAY DISTRICT APPROVED PRIOR TO [ACTION DATE]**

After [action date} all individual sewage disposal systems within the Limestone Overlay District shall be installed in conformance with the setback provisions of this chapter except for any individual sewage disposal system approved by the Loudoun County Health Department prior to [action date] by (i) a Sewage Disposal System Construction Permit; (ii) a Health Department Certification Letter; or (iii) a written approval from the Loudoun County Health Department to satisfy subdivision submission or review requirements.

1066.99 PENALTY.

(EDITOR'S NOTE: See Section 202.99 for general Code penalty if no specific penalty is provided.)

APPENDIX I
Bond Requirements

Installation license	
Bond requirement	\$10,000.00
Septic tank cleaner	
Bond requirement	3,000.00
Percolation test license	
Bond requirement	2,000.00

Note:

1. Licenses are issued annually and are not proratable.
2. Permit fees are not charged when existing, in-use sewage disposal facilities are being upgraded or replaced.
(Ord. 94-05. Passed 2-16-94.)

APPENDIX II

Minimum Distances

	Wells (Water Sources)	Impound- ed Waters	Streams	Property Lines	Basements	Top Edge of Bank and Cuts	<u>*Sink- Holes; Cave Openings; (except & Perennial Sinking Streams (in ft.)</u>	<u>*Other Karst/Sensitive Features (in ft.)</u>
	(in ft.)	(in ft.)	(in ft.)	(in ft.)	(in ft.)	(in ft.)	(in ft.)	(in ft.)
Subsurface Disposal Field	100	50	50	10	20	20	<u>100</u>	<u>50</u>
Septic Tank	50	50	50	10	10	10	<u>100</u>	<u>50</u>

Note: The above distances are the absolute minimum; where deemed necessary to protect the environment and public health, the Health Department may require greater distances.

*applicable only within the Limestone Overlay District; such setback shall be reduced by up to 50% if the geophysical study, as required by Section 4-1905 of the Revised 1993 Zoning Ordinance, as amended, concludes that the risks of collapse and groundwater contamination are non-existent or insignificant for the proposed location and use, except that no reduction shall be approved for any perennial sinking stream, nor for any sinkhole, swallet, closed depression or cave opening that receives either a perennial or intermittent sinking stream. However, for a lot of record existing on [action date] an individual sewage disposal system for a principal residential structure may be permitted within the setback if it is constructed in compliance with Section 1066.11(e)(5) or 1066.11(e)(6), as applicable. "Other Karst/Sensitive Features" shall include Rock Outcrops, Underground Solution Channels within 45 feet of the surface, and other underground features that may affect the proposed development.

In addition, within the Limestone Overlay District subsurface disposal fields and septic tanks shall be located at least 1) one hundred (100) feet from a spring, measured from the first emergence of the spring or 2) two hundred (200) feet from a spring when the first emergence of the spring is on a slope greater than 15% and is downslope from the subsurface disposal field or septic tank, as applicable. However, for a lot of record existing on [action date] an individual sewage disposal system for a principal residential structure may be permitted within the setback if it is constructed in compliance with Section 1066.11(e)(7).

In such installations where Class I or Class II wells (as per Section 1040.12(b) of this Streets, Utilities and Public Services Code) are constructed, the 100-foot distance between the well and the subsurface disposal field may be reduced, provided that geological conditions indicate that such would be satisfactory.